Honduras - Farmer Training and Development

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Overview

Identification

COUNTRY
Honduras

EVALUATION TITLE
Farmer Training and Development

EVALUATION TYPE
Independent Evaluation

ID NUMBER
DDI-MCC-HND-IE-AG-2014-v1

Version

VERSION DESCRIPTION
Anonymized dataset for public distribution

Overview

ABSTRACT
The evaluation design for this activity changed over the course of the evaluation due to problems faced during implementation. In its original conception, the independent evaluator, NORC, and MCA-Honduras planned to use a randomized experimental design involving randomized assignment of communities (aldeas) to treatment. Following a series of implementation problems, the final approach used was an econometric model that relied on a model-based approach to impact evaluation.

As raised in the evaluator report, one key assumption is that the causal models are correct. This is based on the assumption that all important unobserved variables affecting selection, such as proven ex-ante ability to grow horticultural crops, are time invariant (i.e., are constant between the two survey rounds).

Assumptions of the econometric model are:

1. The stable unit treatment value assumption (SUTVA, no macro effects assumption, partial equilibrium assumption) is made. This means that the effect (potential outcomes) on one individual are not affected by potential changes in the treatment exposure of other individuals. This implies, for example, that the program is not so large that the outcomes are correlated (e.g., that farmers would produce such a large amount of horticultural crops that the market would collapse).

2. The causal models are correct. The key assumption here is that all important unobserved variables affecting selection are time invariant (i.e., are constant between the two survey rounds).

3. The program intervention represents a “forced change” in (experimental control of) the agricultural system in Honduras.

4. The half of the country treated before this evaluation began is similar to the half yet to be treated, with respect to relationships among the important causal variables represented in the causal model underlying the statistical analysis.

The exposure period was 12-36 months.

Results from the final evaluation report include: the Model-based approach estimated net income change from horticultural crops is on average USD 600 higher for program participants than for nonparticipants. Input expenditures on these crops increased far more than they did for basic crops, implying a higher level of activity in cultivation of high value crops among program farmers. The results suggest a corresponding decline among program farmers in income from basic crops, as might be expected with changing crop mix; however, this decline is not statistically significant.

However, the program also did not appear to have had a positive effect on the proportion of farmers growing horticultural crops. This could well be because the implementer primarily chose as program participants farmers who showed a proven

ability to grow horticultural crops. It is likely that increments in income from horticultural crops came from increased production among farmers already growing horticultural crops and not from farmers who switched over for the first time.

Even though there was an increase in income from horticultural crops, the evaluator did not find a corresponding statistically significant increase in net household income or household expenditures/consumption, as might have been expected.

EVALUATION METHODOLOGY
Pre-Post with Comparison Population

UNITS OF ANALYSIS
Sampling unit was aldea and household; unti of analysis was the household. Data was collected at the level of individual HH members, but aggregated to the HH level for analysis.

KIND OF DATA
Sample survey data [ssd]

KEYWORDS
Agriculture, Farmer Training, MCC First Five

Coverage

GEOGRAPHIC COVERAGE
Nationwide in Honduras, with the exception of Gracias a Dios Department, national parks and tourist areas (Islas de la Bahia Department).

UNIVERSE
All aldeas in Honduras except Gracias a Dios Department, national parks and tourist areas (Islas de la Bahia Department), as well as any aldea that implementer had already entered

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
National Opinion Research Center (NORC) at the University of Chicago	Independent Evaluator

FUNDING

Name	Abbreviation	Role
Millennium Challenge Corporation	MCC	

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
NORC at the University of Chicago	NORC	Independent Evaluator	Review of Metadata

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MCC Compact and Program

COMPACT OR THRESHOLD
Honduras Compact (2005-2010)

PROGRAM
The MCC compact with Honduras was a five-year investment (2005-2010) of $205 million in two projects: transportation and rural development. The Rural Development Project included four activities: (i) farmer training and development, (ii) farmer access to credit, (iii) farm to market roads, and (iv) agricultural public goods grant facility. The $26.5 million Farmer Training and Development Activity (FTDA) is the subject of both the results described here and an independent evaluation released by MCC originally in October 2012. At the request of the independent evaluator, the original report was revised and the final version was posted in March 2014 This activity represents 13 percent of the total compact. The Transport Project and Farm to Market Roads Sub-Activity are the subject of forthcoming independent evaluations.

MCC SECTOR
Agriculture and Irrigation (Ag & Irr)

PROGRAM LOGIC
The Rural Development Project sought to improve the business skills, productivity, market access, and risk management practices of producers who operate small- and medium-size farms. This aimed to result in higher incomes for the targeted farmers, their employees and their communities and strengthen the capacity of those enterprises servicing horticultural production and trade. FTDA included on-going training and technical assistance, including financial support and extension services in commercial horticulture production and marketing. There were several key assumptions underlying the Farmer Training and Development program logic during the design of the investment: · There were clearly defined, replicable criteria for selecting farmers into the farmer training program · Farmer training and small grants to farms would increase business skills and agricultural capacity of farmers and input providers. · The key constraint for farmers was lack of knowledge and skills on production and marketing of high- value horticulture. · The content and duration of technical training assistance and small grants to farms were sufficient to trigger behavior change. · Farmers had necessary access to credit through existing structures or through the Farmer Access to Credit Activity financed through the compact. · Adoption of good agricultural practices leads to an increase in farm productivity, and increases in farm productivity lead to increases in farm income, which in turn leads to increases in overall household income.

PROGRAM PARTICIPANTS
Farmers targeted by the implementer for participation in training.

Sampling

Study Population

All aldeas in Honduras except Gracias a Dios Department, national parks and tourist areas (Islas de la Bahia Department), as well as any aldea that implementer had already entered

Sampling Procedure

A two-stage survey design was used, in which a first-stage sample of 203 aldeas (villages) was selected, and a second-stage sample of households was selected from each sample aldea. The total number of aldeas in the sample frame (from the GIS, also from Census) was 3,675. After deleting aldeas in Islas de la Bahia and Gracias a Dios departments, those having 100% of caserios in protected status, and those already processed by Fintrac, the sample frame was reduced to 1,822 aldeas. These are the primary sampling units for the survey.

The sample sizes that were decided on were 113 treatment aldeas and 90 control aldeas, with an expected sample size of 9 program farmers and 20 other households in treatment aldeas, and 9 potential treatment farmers and 20 other farmers in control aldeas, for a total sample size of 203 aldeas and (expected) 203 x 29 = 5887 households in each survey round. This sample is constructed by selecting a sample of 113 matched pairs (226 units in all), randomly dividing them into treatment and comparison aldeas, and dropping 23 of the comparison aldeas (resulting in the desired sample size of 113 treatment and 90 comparison aldeas).

Deviations from Sample Design

It was not possible to implement the original design, for a number of reasons (documented in the Final Report). The final sample (for the first survey round) consisted of the responding part of the original (experimental) design (3,981 households) and an additional sample of 545 clients (households) from the program implementer's client list (who entered the program at the same time as the program farmers of the original design). The final responding sample size for the first round survey was 4,526 households (farmers). The design was a panel design in which it was attempted to reinterview, in the second survey round, every household that had been interviewed in the first survey round. The number of households interviewed in the second round was 2,736, for a total of 7,262 household interviews in both survey rounds.

Response Rate

The sample sizes for the two survey rounds were 4,533 in the first round, with 4,533 responding, and 3,063 in the second round, with 2,736 responding.

Weighting

The probability of selection for each sample aldea is included in the file RecodedExtract.xls. The "base" survey weights are equal to 1/prob.

Questionnaires

Overview

Household

Data Collection

Data Collection Dates

Start	End	Cycle
2008	2011	N/A

Data Collection Notes

Baseline data came from survey rounds conducted in June 2009 (Cohort 2) and two additional supplemental rounds (the 545 farmers from Fintrac's lists that entered the program around June 2009, and new farmers recruited by Fintrac from Cohort 2 aldeas, at the request of MCC) conducted between April and July 2010. Endline data collection occurred between February 22 and March 14, 2011. Household surveys for the transport and FTDA project evaluations were collected during this period.

Four rounds of baseline data collection (between July 2008 and July 2010), and one endline data collection in 2011, were conducted for the FTDA evaluation by INE and its staff. The first baseline data collection of Cohort 1 aldeas took place in July and August 2008; data were collected from nearly 900 potential program farmers as well as an average of 20 additional households in each of 203 control and treatment villages (n=4800). However, by late 2008, it became apparent that Fintrac had inducted only a handful of the potential program farmers identified into the FTDA. To try to retain the potential-farmer control-group stratification of the original experimental design, NORC identified a second cohort of treatment and control aldeas using a new, more detailed, list of criteria provided by Fintrac (this process is described in greater detail above in Section C.2). INE, working with NORC, collected data from what we now refer to as Cohort 2 aldeas (179) and farmers (658 potential program farmers plus other households in each aldea) in June 2009. This second effort also proved unsuccessful in replicating the Fintrac selection process and identifying farmers acceptable to Fintrac. Fintrac returned to many of these Cohort 2 aldeas in early 2010, to identify and recruit new farmers; they also provided NORC with lists of old recruits from Cohort 2 aldeas who had entered the FTDA as early as June 2009. Baseline data collection for these farmers (a total of approximately 200), as well as the random sample of 545 program farmers from Fintrac's own client lists (from normal program operations) was conducted in two sub-rounds between April and July 2010. The follow-on data collection took place in Spring 2011.

Questionnaires

Household

Data Collectors

Name	Abbreviation	Affiliation
Honduran National Institute of Statistics (Instituto Nacional de Estadistica)	INE	Data collection firm

Supervision

The data collection for each round of the baseline, as well as for the endline, was completed by 5-person field teams during 30 day data collection periods. Three senior technical supervisors oversaw each data collection effort and monitored progress on the ground during the entire data collection period. NORC provided the study sample for each round, along with any available geo-coding and contact information. INE used this information to organize the national data collection in the most cost-efficient manner possible, depending on the geographic dispersion of the cases.

INE required that interviewers review and code any completed interviews and provide them to the editor by the end of each working day. The editor reviewed the completed questionnaire within one working day and, if necessary, discussed questions or problems with the interviewer and the supervisor. This rapid review permitted the interview staff to return to a household if data retrieval or verification were required. Since an average of just 2 to 3 days was spent in each zone, it was critical that these reviews be conducted promptly so updates could be made before the team left the zone. Completed questionnaires were reviewed by supervisors and if complete, returned in regular shipments to the Central Office in Tegucigalpa for receipting and processing.

To assure standards of quality in the field, INE used evaluation forms to assess the performance of supervisors, interviewers and team editors (críticos) during each round of data collection. These instruments, which were administered by direct the supervisor for each of the aforementioned groups, collected information on a range of tasks performed by each group. The

data gathered using these forms was used to respond quickly and efficiently to any issue that was identified in the field.

Data Processing

Data Editing

Once the “raw” survey data were available from INE, they were prepared for analysis by the ESA Consultores, the Honduras subcontractor. This cleaning and aggregation process is documented in detail in a series of Stata command (.do) files, Do*FTDAImpact.do (where “*” represents digits 1-11).

Other Processing

For each round of data collection INE trained a team of 15 to 20 data entry clerks and two supervisors. INE would conduct 5 day-training of data entry staff prior to the start of data entry. Staff were expected to complete the data entry of 20 surveys per day during an 8 hour work day for the first week and then increase to as many as 25 per day as they became more familiar with the instrument.

They performed data entry using an in-house program, which was developed and tested by INE programmers and approved by MCA and NORC prior to the start of data collection. INE protocols require 100% double data entry. To ensure quality and detect any data entry errors, we required that each questionnaire be data entered twice, using different clerks for each of the two entries. Then, supervisors performed a reconciliation of all data entries to identify and correct any errors that were identified. The data entry program was designed to conduct consistency checks and perform a series of validation measures automatically. The next step in processing was to conduct a number of additional consistency and error checks. INE then generated frequencies and crosstabs in SPSS for validation. The data were delivered to the client within 6 – 8 weeks of the end of data collection in the field.

Data Appraisal

Estimates of Sampling Error

Standard errors are reported for all impact estimates presented in the final report. Standard errors were estimated using the "bootstrap" (resampling) procedure.